

61835-1.ST25.txt
SEQUENCE LISTING

<110> Vanaja, Donkena Krishna
Young, Charles Y.F.

<120> Methods And Compositions For Diagnosis, Staging and Prognosis of
Prostate Cancer

<130> 61835-2

<140> US

<141> 2004-07-14

<150> US 60/487,553

<151> 2003-07-14

<160> 52

<170> PatentIn version 3.2

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Met Phe Lys Gln Ile His Lys Leu Asn Arg Asp Asp Asp Ser Asp Leu			
370	375	380	
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Tyr Ser Pro Arg Tyr Ser Phe Ser Glu Asp Thr Lys Ser Pro Leu Ser			
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Pro Gly Lys Ser Val Leu Thr Asn Glu Lys Met Ser Ser Ala Ile			
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Asp Tyr Met Asp Leu Pro Phe Ser Ser Ser Pro Ser Arg Ser Ala Thr			
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Arg Ser Gln Thr Ser Gln Asp Leu Phe Ser Tyr Gln Ala Leu Tyr Ser			
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Tyr Ile Pro Gln Asn Asp Asp Glu Leu Glu Leu Arg Asp Gly Asp Ile			
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Val Asp Val Met Glu Lys Cys Asp Asp Gly Trp Phe Val Gly Thr Ser			
	785	790	795
aga agg aca aag cag ttt ggt act ttt cca ggc aac tat gta aaa cct			2629
Arg Arg Thr Lys Gln Phe Gly Thr Phe Pro Gly Asn Tyr Val Lys Pro			
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ttg tat cta taa gaagactgaa aaccatggag attattttta ttggaggagg			2681
Leu Tyr Leu			
815			
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61835-1.ST25.txt

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Cys Thr Gly Lys Gly Ala Val Thr Leu Arg Ala Ser Ser Ser Tyr Arg
 35 40 45

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Glu Thr Pro Ser Ser Ser Pro Ala Ser Pro Gln Glu Thr Arg Gln His
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Glu Ser Lys Pro Gly Leu Glu Pro Glu Pro Ser Ser Ala Asp Glu Trp
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Arg Leu Ser Ser Ser Ala Asp Ala Asn Gly Asn Ala Gln Pro Ser Ser
 85 90 95

Leu Ala Ala Lys Gly Tyr Arg Ser Val His Pro Asn Leu Pro Ser Asp
 100 105 110

Lys Ser Gln Asp Ala Thr Ser Ser Ser Ala Ala Gln Pro Glu Val Ile
 115 120 125

Val Val Pro Leu Tyr Leu Val Asn Thr Asp Arg Gly Gln Glu Gly Thr
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Ala Arg Pro Pro Thr Pro Leu Gly Pro Leu Gly Cys Val Pro Thr Ile
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Pro Ala Thr Ala Ser Ala Ala Ser Pro Leu Thr Phe Pro Thr Leu Asp
 165 170 175

Asp Phe Ile Pro Pro His Leu Gln Arg Trp Pro His His Ser Gln Pro
 180 185 190

Ala Arg Ala Ser Gly Ser Phe Ala Pro Ile Ser Gln Thr Pro Pro Ser
 195 200 205

Phe Ser Pro Pro Pro Pro Leu Val Pro Pro Ala Pro Glu Asp Leu Arg
 210 215 220

Arg Val Ser Glu Pro Asp Leu Thr Gly Ala Val Ser Ser Thr Asp Ser
 225 230 235 240

Ser Pro Leu Leu Asn Glu Val Ser Ser Ser Leu Ile Gly Thr Asp Ser
 245 250 255

Gln Ala Phe Pro Ser Val Ser Lys Pro Ser Ser Ala Tyr Pro Ser Thr
 260 265 270

Thr Ile Val Asn Pro Thr Ile Val Leu Leu Gln His Asn Arg Glu Gln
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Gln Lys Arg Leu Ser Ser Leu Ser Asp Pro Val Ser Glu Arg Arg Val
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Gly Glu Gln Asp Ser Ala Pro Thr Gln Glu Lys Pro Thr Ser Pro Gly
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 Ser Thr Gln Asp Leu Ser Asp Val Ser Met Asp Glu Val Gly Ile Pro
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 Leu Arg Asn Thr Glu Arg Ser Lys Asp Trp Tyr Lys Thr Met Phe Lys
 355 360 365
 Gln Ile His Lys Leu Asn Arg Asp Asp Asp Ser Asp Leu Tyr Ser Pro
 370 375 380
 Arg Tyr Ser Phe Ser Glu Asp Thr Lys Ser Pro Leu Ser Val Pro Arg
 385 390 395 400
 Ser Lys Ser Glu Met Ser Tyr Ile Asp Gly Glu Lys Val Val Lys Arg
 405 410 415
 Ser Ala Thr Leu Pro Leu Pro Ala Arg Ser Ser Ser Leu Lys Ser Ser
 420 425 430
 Ser Glu Arg Asn Asp Trp Glu Pro Pro Asp Lys Lys Val Asp Thr Arg
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 Lys Tyr Arg Ala Glu Pro Lys Ser Ile Tyr Glu Tyr Gln Pro Gly Lys
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 Ser Ser Val Leu Thr Asn Glu Lys Met Ser Ser Ala Ile Ser Pro Thr
 465 470 475 480
 Pro Glu Ile Ser Ser Glu Thr Pro Gly Tyr Ile Tyr Ser Ser Asn Phe
 485 490 495
 His Ala Val Lys Arg Glu Ser Asp Gly Ala Pro Gly Asp Leu Thr Ser
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 Leu Glu Asn Glu Arg Gln Ile Tyr Lys Ser Val Leu Glu Gly Gly Asp
 515 520 525
 Ile Pro Leu Gln Gly Leu Ser Gly Leu Lys Arg Pro Ser Ser Ser Ala
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 Ser Thr Lys Asp Ser Glu Ser Pro Arg His Phe Ile Pro Ala Asp Tyr
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Leu Glu Ser Thr Glu Glu Phe Ile Arg Arg Arg His Asp Asp Lys Glu
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 595 600 605

Asp Gln Asn Trp Tyr Glu Gly Glu His His Gly Arg Val Gly Ile Phe
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Pro Arg Thr Tyr Ile Glu Leu Leu Pro Pro Ala Glu Lys Ala Gln Pro
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Lys Lys Leu Thr Pro Val Gln Val Leu Glu Tyr Gly Glu Ala Ile Ala
 645 650 655

Lys Phe Asn Phe Asn Gly Asp Thr Gln Val Glu Met Ser Phe Arg Lys
 660 665 670

Gly Glu Arg Ile Thr Leu Leu Arg Gln Val Asp Glu Asn Trp Tyr Glu
 675 680 685

Gly Arg Ile Pro Gly Thr Ser Arg Gln Gly Ile Phe Pro Ile Thr Tyr
 690 695 700

Val Asp Val Ile Lys Arg Pro Leu Val Lys Asn Pro Val Asp Tyr Met
 705 710 715 720

Asp Leu Pro Phe Ser Ser Ser Pro Ser Arg Ser Ala Thr Ala Ser Pro
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Gln Gln Pro Gln Ala Gln Gln Arg Arg Val Thr Pro Asp Arg Ser Gln
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Thr Ser Gln Asp Leu Phe Ser Tyr Gln Ala Leu Tyr Ser Tyr Ile Pro
 755 760 765

Gln Asn Asp Asp Glu Leu Glu Leu Arg Asp Gly Asp Ile Val Asp Val
 770 775 780

Met Glu Lys Cys Asp Asp Gly Trp Phe Val Gly Thr Ser Arg Arg Thr
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 tagaaggtag aggtgaacca gaactggagg ggcatttgagg atccttcctt cttcagaaaag 180
 tgcgatcgca tcaagatgca tgtggttttc agtagaactg gcccatgttt cttgggagcg 240
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 Met Lys Arg Lys Glu
 1 5
 aga att gcc agg cgc ctg gaa ggg att gaa aat gac act cag ccc atc 163
 Arg Ile Ala Arg Arg Leu Glu Gly Ile Glu Asn Asp Thr Gln Pro Ile
 10 15 20
 ctc ttg cag agc tgc aca gga ttg gtg act cac cgc ctg ctg gag gaa 211
 Leu Leu Gln Ser Cys Thr Gly Leu Val Thr His Arg Leu Leu Glu Glu
 25 30 35
 gac acc cct cga tac atg aga gcc agc gac cct gcc agc ccc cac atc 259
 Asp Thr Pro Arg Tyr Met Arg Ala Ser Asp Pro Ala Ser Pro His Ile
 40 45 50
 ggc cga tca aat gaa gag gag gaa act tct gat tct tct cta gaa aag 307
 Gly Arg Ser Asn Glu Glu Glu Glu Thr Ser Asp Ser Ser Leu Glu Lys
 55 60 65
 caa act cga tcc aaa tac tgc aca gaa acc tcc ggt gtc cac ggt gac 355
 Gln Thr Arg Ser Lys Tyr Cys Thr Glu Thr Ser Gly Val His Gly Asp
 70 75 80 85

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Ser Pro Tyr Gly Ser Gly Thr Met Asp Thr His Ser Leu Glu Ser Lys	
90 95 100	
gcc gaa aga att gca agg tac aaa gca gaa aga agg cga cag ctg gca	451
Ala Glu Arg Ile Ala Arg Tyr Lys Ala Glu Arg Arg Arg Gln Leu Ala	
105 110 115	
gag aag tat ggg ctg act ctg gat ccc gag gcc gac tcc gag tat tta	499
Glu Lys Tyr Gly Leu Thr Leu Asp Pro Glu Ala Asp Ser Glu Tyr Leu	
120 125 130	
tcc cgc tat acc aag tcc agg aag gag cct gat gct gtc gag aag cgg	547
Ser Arg Tyr Thr Lys Ser Arg Lys Glu Pro Asp Ala Val Glu Lys Arg	
135 140 145	
gga gga aaa agt gac aaa cag gaa gag tca agc aga gat gck agt tct	595
Gly Gly Lys Ser Asp Lys Gln Glu Glu Ser Ser Arg Asp Ala Ser Ser	
150 155 160 165	
ctg tac ccc ggg acc gag acg atg ggg ctc agg acc tgt gcc ggt gaa	643
Leu Tyr Pro Gly Thr Glu Thr Met Gly Leu Arg Thr Cys Ala Gly Glu	
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Ser Lys Asp Tyr Ala Leu His Val Gly Asp Gly Ser Ser Asp Pro Glu	
185 190 195	
gtg ctg ctg aac ata gaa aac caa aga cga ggt caa gag ctg agt gcc	739
Val Leu Leu Asn Ile Glu Asn Gln Arg Arg Gly Gln Glu Leu Ser Ala	
200 205 210	
acc cgg cag gcc cat gac ctg tcc cca gca gcc gag agt tcc tcg acc	787
Thr Arg Gln Ala His Asp Leu Ser Pro Ala Ala Glu Ser Ser Ser Thr	
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Phe Ser Phe Ser Gly Arg Asp Ser Ser Phe Thr Glu Val Pro Arg Ser	
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Pro Lys His Ala His Ser Ser Ser Leu Gln Gln Ala Ala Ser Arg Ser	
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Pro Ser Phe Gly Asp Pro Gln Leu Ser Pro Glu Ala Arg Pro Arg Cys	
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Thr Ser His Ser Glu Thr Pro Thr Val Asp Asp Glu Glu Lys Val Asp	
280 285 290	
gaa cga gcc aag ctg agc gtc gcc gcc aag agg ttg ctt ttc agg gag	1027
Glu Arg Ala Lys Leu Ser Val Ala Ala Lys Arg Leu Leu Phe Arg Glu	
295 300 305	
atg gaa aaa tct ttt gat gaa caa aat gtt cca aag cga cgc tca aga	1075
Met Glu Lys Ser Phe Asp Glu Gln Asn Val Pro Lys Arg Arg Ser Arg	
310 315 320 325	
aac aca gct gtg gag cag agg cta cgc cgt ctg cag gac agg tcc ctc	1123
Asn Thr Ala Val Glu Gln Arg Leu Arg Arg Leu Gln Asp Arg Ser Leu	
330 335 340	

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acc cag ccc atc acc act gaa gag	gtg gtc atc gca gcc aca ttg cag	1171
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Ala Ser Ala His Gln Lys Ala Leu Ala Lys Asp Gln Thr Asn Glu Gly		
360	365 370	
aaa gag ctt gct gag caa gga gaa cct gat tcc tcc act cta agc ttg	1267	
Lys Glu Leu Ala Glu Gln Gly Glu Pro Asp Ser Ser Thr Leu Ser Leu		
375	380 385	
gcc gaa aag ttg gcc ttg ttt aac aaa ttg tcc cag cca gtc tca aaa	1315	
Ala Glu Lys Leu Ala Leu Phe Asn Lys Leu Ser Gln Pro Val Ser Lys		
390	395 400 405	
gcg att tct acc cgg aac aga ata gac acg aga cag agg aga atg aac	1363	
Ala Ile Ser Thr Arg Asn Arg Ile Asp Thr Arg Gln Arg Arg Met Asn		
410	415 420	
gct cgc tat caa act cag cca gtc aca ctg gga gag gtg gag cag gtg	1411	
Ala Arg Tyr Gln Thr Gln Pro Val Thr Leu Gly Glu Val Glu Gln Val		
425	430 435	
cag agt gga aag ctc att cct ttc tca cct gcc gtg aac aca tca gtg	1459	
Gln Ser Gly Lys Leu Ile Pro Phe Ser Pro Ala Val Asn Thr Ser Val		
440	445 450	
tct acc gta gca tcc acg gtt gct cca atg tat gcc gga gat ctt cgc	1507	
Ser Thr Val Ala Ser Thr Val Ala Pro Met Tyr Ala Gly Asp Leu Arg		
455	460 465	
aca aag cca cct ctt gac cac aat gca agt gcc act gac tat aag ttt	1555	
Thr Lys Pro Pro Leu Asp His Asn Ala Ser Ala Thr Asp Tyr Lys Phe		
470	475 480 485	
tct tct tca ata gaa aat tcg gac tct cca gtt aga agc att ctg aaa	1603	
Ser Ser Ser Ile Glu Asn Ser Asp Ser Pro Val Arg Ser Ile Leu Lys		
490	495 500	
tcg caa gct tgg cag cct ttg gta gag ggt agc gag aac aag gga atg	1651	
Ser Gln Ala Trp Gln Pro Leu Val Glu Gly Ser Glu Asn Lys Gly Met		
505	510 515	
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Asp Ser Gly Met Glu Lys Tyr Gly Ser Phe Glu Glu Ala Glu Ala Ser		
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Lys Tyr Ala Val Pro Arg Arg Gly Ser Leu Glu Arg Ala Asn Pro Pro		
570	575 580	
atc acc cac ctc ggg gat gaa ccg aag gaa ttt tcc atg gct aaa atg	1891	
Ile Thr His Leu Gly Asp Glu Pro Lys Glu Phe Ser Met Ala Lys Met		
585	590 595	

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Asn Ala Gln Gly Asn Leu Asp Leu Arg Asp Arg Leu Pro Phe Glu Glu	
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aag gtg gag gtg gag aat gtt atg aaa agg aag ttt tca cta aga gcg	1987
Lys Val Glu Val Glu Asn Val Met Lys Arg Lys Phe Ser Leu Arg Ala	
615 620 625	
gca gag ttc ggg gag ccc act tcc gag cag acg ggg aca gct gct ggg	2035
Ala Glu Phe Gly Glu Pro Thr Ser Glu Gln Thr Gly Thr Ala Ala Gly	
630 635 640 645	
aaa act att gct caa acc aca gcc ccc gtg tcc tgg aag ccc cag gat	2083
Lys Thr Ile Ala Gln Thr Thr Ala Pro Val Ser Trp Lys Pro Gln Asp	
650 655 660	
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Ser Ser Glu Gln Pro Gln Glu Lys Leu Cys Lys Asn Pro Cys Ala Met	
665 670 675	
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Phe Ala Ala Gly Glu Ile Lys Thr Pro Thr Gly Glu Gly Leu Leu Asp	
680 685 690	
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Ser Pro Ser Lys Thr Met Ser Ile Lys Glu Arg Leu Ala Leu Leu Lys	
695 700 705	
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Lys Ser Gly Glu Glu Asp Trp Arg Asn Arg Leu Ser Arg Arg Gln Glu	
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Gly Gly Lys Ala Pro Ala Ser Ser Leu His Thr Gln Glu Ala Gly Arg	
730 735 740	
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Ser Leu Ile Lys Lys Arg Val Thr Glu Ser Arg Glu Ser Gln Met Thr	
745 750 755	
att gag gag agg aag cag ctc atc act gtg aga gag gag gcc tgg aag	2419
Ile Glu Glu Arg Lys Gln Leu Ile Thr Val Arg Glu Glu Ala Trp Lys	
760 765 770	
acg aga ggc aga gga gcg gcc aac gac tcg acc cag ttc act gtg gct	2467
Thr Arg Gly Arg Gly Ala Ala Asn Asp Ser Thr Gln Phe Thr Val Ala	
775 780 785	
ggc agg atg gtg aag aaa ggt ttg gcg tca cct act gcc ata acc cca	2515
Gly Arg Met Val Lys Lys Gly Leu Ala Ser Pro Thr Ala Ile Thr Pro	
790 795 800 805	
gta gcc tca gcc att tgc ggt aaa aca aga ggc acc aca ccc gtt tcc	2563
Val Ala Ser Ala Ile Cys Gly Lys Thr Arg Gly Thr Thr Pro Val Ser	
810 815 820	
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Lys Pro Leu Glu Asp Ile Glu Ala Arg Pro Asp Met Gln Leu Glu Ser	
825 830 835	
gac ctg aag ttg gac agg ctg gaa acc ttt cta aga agg ctg aat aac	2659
Asp Leu Lys Leu Asp Arg Leu Glu Thr Phe Leu Arg Arg Leu Asn Asn	
840 845 850	

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Val Lys Glu Val Met Lys Pro Asp Asp Asp Glu Thr Phe Ala Lys Phe	
870 875 880 885	
tac cgc agc gtg gat tat aat atg cca aga agt cct gtg gag atg gat	2803
Tyr Arg Ser Val Asp Tyr Asn Met Pro Arg Ser Pro Val Glu Met Asp	
890 895 900	
gag gac ttc gat gtc att ttc gat cct tat gca ccc aaa ttg acg tct	2851
Glu Asp Phe Asp Val Ile Phe Asp Pro Tyr Ala Pro Lys Leu Thr Ser	
905 910 915	
tcc gtg gcc gag cac aag cgg gca gtt agg ccc aag cgc cgg gtt cag	2899
Ser Val Ala Glu His Lys Arg Ala Val Arg Pro Lys Arg Arg Val Gln	
920 925 930	
gcc tcc aaa aac ccc ctg aaa atg ctg gcg gca aga gaa gat ctc ctt	2947
Ala Ser Lys Asn Pro Leu Lys Met Leu Ala Ala Arg Glu Asp Leu Leu	
935 940 945	
cag gaa tac act gag cag aga tta aac gtt gcc ttc atg gag tca aag	2995
Gln Glu Tyr Thr Glu Gln Arg Leu Asn Val Ala Phe Met Glu Ser Lys	
950 955 960 965	
cgg atg aaa gta gaa aag atg tct tcc aac tcc aac ttc tca gaa gtc	3043
Arg Met Lys Val Glu Lys Met Ser Ser Asn Ser Asn Phe Ser Glu Val	
970 975 980	
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Thr Leu Ala Gly Leu Ala Ser Lys Glu Asn Phe Ser Asn Val Ser Leu	
985 990 995	
cgg agc gtc aac ctg acg gaa cag aac tct aac aac agc gcc gtg	3136
Arg Ser Val Asn Leu Thr Glu Gln Asn Ser Asn Asn Ser Ala Val	
1000 1005 1010	
ccc tac aag agg ctg atg ctg ttg cag att aaa gga aga aga cat	3181
Pro Tyr Lys Arg Leu Met Leu Leu Gln Ile Lys Gly Arg Arg His	
1015 1020 1025	
gtg cag acc agg ctg gtg gaa cct cga gct tcg gcg ctc aac agt	3226
Val Gln Thr Arg Leu Val Glu Pro Arg Ala Ser Ala Leu Asn Ser	
1030 1035 1040	
ggg gac tgc ttc ctc ctg ctc tct ccc cac tgc tgc ttc ctg tgg	3271
Gly Asp Cys Phe Leu Leu Leu Ser Pro His Cys Cys Phe Leu Trp	
1045 1050 1055	
gta gga gag ttt gca aac gtc ata gaa aag gcg aag gcc tca gaa	3316
Val Gly Glu Phe Ala Asn Val Ile Glu Lys Ala Lys Ala Ser Glu	
1060 1065 1070	
ctt gca act tta att cag aca aag agg gaa ctt ggt tgt aga gct	3361
Leu Ala Thr Leu Ile Gln Thr Lys Arg Glu Leu Gly Cys Arg Ala	
1075 1080 1085	
act tat atc caa acc att gaa gaa gga att aat aca cac act cat	3406
Thr Tyr Ile Gln Thr Ile Glu Glu Gly Ile Asn Thr His Thr His	
1090 1095 1100	

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gca gcc aaa gac ttc tgg aag ctt	ctg ggt ggc caa acc agt tac	3451
Ala Ala Lys Asp Phe Trp Lys Leu	Leu Gly Gly Gln Thr Ser Tyr	
1105	1110 1115	
caa tct gct gga gac cca aaa gaa	gat gaa ctc tat gaa gca gcc	3496
Gln Ser Ala Gly Asp Pro Lys Glu	Asp Glu Leu Tyr Glu Ala Ala	
1120	1125 1130	
ata ata gaa act aac tgc att tac	cgt ctc atg gat gac aaa ctt	3541
Ile Ile Glu Thr Asn Cys Ile Tyr	Arg Leu Met Asp Asp Lys Leu	
1135	1140 1145	
gtt cct gat gac gac tac tgg ggg	aaa att ccg aag tgc tcc ctt	3586
Val Pro Asp Asp Asp Tyr Trp Gly	Lys Ile Pro Lys Cys Ser Leu	
1150	1155 1160	
ctg caa ccc aaa gag gta ctg gtg	ttt gat ttt ggt agt gaa gtt	3631
Leu Gln Pro Lys Glu Val Leu Val	Phe Asp Phe Gly Ser Glu Val	
1165	1170 1175	
tac gta tgg cat ggg aaa gaa gtc	aca tta gca caa cga aaa ata	3676
Tyr Val Trp His Gly Lys Glu Val	Thr Leu Ala Gln Arg Lys Ile	
1180	1185 1190	
gca ttt cag ctg gca aag cac tta	tgg aat gga acc ttt gac tat	3721
Ala Phe Gln Leu Ala Lys His Leu	Trp Asn Gly Thr Phe Asp Tyr	
1195	1200 1205	
gag aac tgt gac atc aat ccc ctg	gat cct gga gaa tgc aat ccg	3766
Glu Asn Cys Asp Ile Asn Pro Leu	Asp Pro Gly Glu Cys Asn Pro	
1210	1215 1220	
ctt atc ccc aga aaa gga cag ggg	cgg ccc gac tgg gcg ata ttt	3811
Leu Ile Pro Arg Lys Gly Gln Gly	Arg Pro Asp Trp Ala Ile Phe	
1225	1230 1235	
ggg aga ctt act gaa cac aat gag	acg att ttg ttc aaa gag aag	3856
Gly Arg Leu Thr Glu His Asn Glu	Thr Ile Leu Phe Lys Glu Lys	
1240	1245 1250	
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Phe Leu Asp Trp Thr Glu Leu Lys	Arg Ser Asn Glu Lys Asn Pro	
1255	1260 1265	
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Gly Glu Leu Ala Gln His Lys Glu	Asp Pro Arg Thr Asp Val Lys	
1270	1275 1280	
gca tac gat gtg aca cgg atg gtg	tcc atg ccc cag acg aca gca	3991
Ala Tyr Asp Val Thr Arg Met Val	Ser Met Pro Gln Thr Thr Ala	
1285	1290 1295	
ggc acc atc ctg gac gga gtg aac	gtc ggc cgt ggc tat ggc ctg	4036
Gly Thr Ile Leu Asp Gly Val Asn	Val Gly Arg Gly Tyr Gly Leu	
1300	1305 1310	
gtg gaa gga cac gac agg agg cag	ttt gag atc acc agc gtt tcc	4081
Val Glu Gly His Asp Arg Arg Gln	Phe Glu Ile Thr Ser Val Ser	
1315	1320 1325	
gtg gat gtc tgg cac atc ctg gaa	ttc gac tat agc agg ctc ccc	4126
Val Asp Val Trp His Ile Leu Glu	Phe Asp Tyr Ser Arg Leu Pro	
1330	1335 1340	

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aaa caa agc atc ggg cag ttc cat gag ggg gat gcc tat gtg gtc	4171
Lys Gln Ser Ile Gly Gln Phe His Glu Gly Asp Ala Tyr Val Val	
1345 1350 1355	
aag tgg aag ttc atg gtg agc acg gca gtg gga agt cgc cag aag	4216
Lys Trp Lys Phe Met Val Ser Thr Ala Val Gly Ser Arg Gln Lys	
1360 1365 1370	
gga gag cac tcg gtg agg gca gcc ggc aaa gag aag tgc gtc tac	4261
Gly Glu His Ser Val Arg Ala Ala Gly Lys Glu Lys Cys Val Tyr	
1375 1380 1385	
ttc ttc tgg caa ggc cgg cac tcc acc gtg agt gag aag ggc acg	4306
Phe Phe Trp Gln Gly Arg His Ser Thr Val Ser Glu Lys Gly Thr	
1390 1395 1400	
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Ser Ala Leu Met Thr Val Glu Leu Asp Glu Glu Arg Gly Ala Gln	
1405 1410 1415	
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Val Gln Val Leu Gln Gly Lys Glu Pro Pro Cys Phe Leu Gln Cys	
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ttc cag ggg ggg atg gtg gtg cac tcg ggg agg cgg gaa gag gaa	4441
Phe Gln Gly Gly Met Val Val His Ser Gly Arg Arg Glu Glu Glu	
1435 1440 1445	
gaa gaa aat gtg caa agt gag tgg cgg ctg tac tgc gtg cgt gga	4486
Glu Glu Asn Val Gln Ser Glu Trp Arg Leu Tyr Cys Val Arg Gly	
1450 1455 1460	
gag gtg ccc gtg gaa ggg aat ttg ctg gaa gtg gcc tgt cac tgt	4531
Glu Val Pro Val Glu Gly Asn Leu Leu Glu Val Ala Cys His Cys	
1465 1470 1475	
agc agc ctg agg tcc aga act tcc atg gtg gtg ctt aac gtc aac	4576
Ser Ser Leu Arg Ser Arg Thr Ser Met Val Val Leu Asn Val Asn	
1480 1485 1490	
aag gcc ctc atc tac ctg tgg cac gga tgc aaa gcc cag gcc cac	4621
Lys Ala Leu Ile Tyr Leu Trp His Gly Cys Lys Ala Gln Ala His	
1495 1500 1505	
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Thr Lys Glu Val Gly Arg Thr Ala Ala Asn Lys Ile Lys Glu Gln	
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Cys Pro Leu Glu Ala Gly Leu His Ser Ser Ser Lys Val Thr Ile	
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His Glu Cys Asp Glu Gly Ser Glu Pro Leu Gly Phe Trp Asp Ala	
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Leu Gly Arg Arg Asp Arg Lys Ala Tyr Asp Cys Met Leu Gln Asp	
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cct gga agt ttt aac ttc gcg ccc cgc ctg ttc atc ctc agc agc	4846
Pro Gly Ser Phe Asn Phe Ala Pro Arg Leu Phe Ile Leu Ser Ser	
1570 1575 1580	

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tcc tct ggg gat ttt gca gcc aca gag ttt gtg tac cct gcc cga	4891
Ser Ser Gly Asp Phe Ala Ala Thr Glu Phe Val Tyr Pro Ala Arg	
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Ala Pro Ser Val Val Ser Ser Met Pro Phe Leu Gln Glu Asp Leu	
1600 1605 1610	
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Tyr Ser Ala Pro Gln Pro Ala Leu Phe Leu Val Asp Asn His His	
1615 1620 1625	
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Glu Val Tyr Leu Trp Gln Gly Trp Trp Pro Ile Glu Asn Lys Ile	
1630 1635 1640	
act ggt tcc gcc cgc atc cgc tgg gcc tcc gac cgg aag agt gcg	5071
Thr Gly Ser Ala Arg Ile Arg Trp Ala Ser Asp Arg Lys Ser Ala	
1645 1650 1655	
atg gag act gtg ctc cag tac tgc aaa gga aaa aat ctc aag aaa	5116
Met Glu Thr Val Leu Gln Tyr Cys Lys Gly Lys Asn Leu Lys Lys	
1660 1665 1670	
cca gcc ccc aag tct tac ctt atc cac gct ggt ctg gag ccc ctg	5161
Pro Ala Pro Lys Ser Tyr Leu Ile His Ala Gly Leu Glu Pro Leu	
1675 1680 1685	
aca ttc acc aat atg ttt ccc agc tgg gag cac aga gag gac atc	5206
Thr Phe Thr Asn Met Phe Pro Ser Trp Glu His Arg Glu Asp Ile	
1690 1695 1700	
gct gag atc aca gag atg gac acg gaa gtt tcc aat cag atc acc	5251
Ala Glu Ile Thr Glu Met Asp Thr Glu Val Ser Asn Gln Ile Thr	
1705 1710 1715	
ctc gtg gaa gac gtc tta gcc aag ctc tgt aaa acc att tac ccg	5296
Leu Val Glu Asp Val Leu Ala Lys Leu Cys Lys Thr Ile Tyr Pro	
1720 1725 1730	
ctg gcc gac ctc ctg gcc agg cca ctc ccg gag ggg gtc gat cct	5341
Leu Ala Asp Leu Leu Ala Arg Pro Leu Pro Glu Gly Val Asp Pro	
1735 1740 1745	
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Leu Lys Leu Glu Ile Tyr Leu Thr Asp Glu Asp Phe Glu Phe Ala	
1750 1755 1760	
cta gac atg acg agg gat gaa tac aac gcc ctg ccc gcc tgg aag	5431
Leu Asp Met Thr Arg Asp Glu Tyr Asn Ala Leu Pro Ala Trp Lys	
1765 1770 1775	
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Gln Val Asn Leu Lys Lys Ala Lys Gly Leu Phe	
1780 1785	
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gttaaagata ctgcttgtcc cggagttgtg tattttgtaa atgttcaagg gaactgtttg	5657
gaaacttctt tccaccattc a	5678

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 <211> 1788
 <212> PRT
 <213> homo sapiens

<400> 36

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 20 25 30

Arg Leu Leu Glu Glu Asp Thr Pro Arg Tyr Met Arg Ala Ser Asp Pro
 35 40 45

Ala Ser Pro His Ile Gly Arg Ser Asn Glu Glu Glu Glu Thr Ser Asp
 50 55 60

Ser Ser Leu Glu Lys Gln Thr Arg Ser Lys Tyr Cys Thr Glu Thr Ser
 65 70 75 80

Gly Val His Gly Asp Ser Pro Tyr Gly Ser Gly Thr Met Asp Thr His
 85 90 95

Ser Leu Glu Ser Lys Ala Glu Arg Ile Ala Arg Tyr Lys Ala Glu Arg
 100 105 110

Arg Arg Gln Leu Ala Glu Lys Tyr Gly Leu Thr Leu Asp Pro Glu Ala
 115 120 125

Asp Ser Glu Tyr Leu Ser Arg Tyr Thr Lys Ser Arg Lys Glu Pro Asp
 130 135 140

Ala Val Glu Lys Arg Gly Gly Lys Ser Asp Lys Gln Glu Glu Ser Ser
 145 150 155 160

Arg Asp Ala Ser Ser Leu Tyr Pro Gly Thr Glu Thr Met Gly Leu Arg
 165 170 175

Thr Cys Ala Gly Glu Ser Lys Asp Tyr Ala Leu His Val Gly Asp Gly
 180 185 190

Ser Ser Asp Pro Glu Val Leu Leu Asn Ile Glu Asn Gln Arg Arg Gly
 195 200 205

Gln Glu Leu Ser Ala Thr Arg Gln Ala His Asp Leu Ser Pro Ala Ala
 210 215 220

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Glu Ser Ser Ser Thr Phe Ser Phe Ser Gly Arg Asp Ser Ser Phe Thr
 225 230 235 240

Glu Val Pro Arg Ser Pro Lys His Ala His Ser Ser Ser Leu Gln Gln
 245 250 255

Ala Ala Ser Arg Ser Pro Ser Phe Gly Asp Pro Gln Leu Ser Pro Glu
 260 265 270

Ala Arg Pro Arg Cys Thr Ser His Ser Glu Thr Pro Thr Val Asp Asp
 275 280 285

Glu Glu Lys Val Asp Glu Arg Ala Lys Leu Ser Val Ala Ala Lys Arg
 290 295 300

Leu Leu Phe Arg Glu Met Glu Lys Ser Phe Asp Glu Gln Asn Val Pro
 305 310 315 320

Lys Arg Arg Ser Arg Asn Thr Ala Val Glu Gln Arg Leu Arg Arg Leu
 325 330 335

Gln Asp Arg Ser Leu Thr Gln Pro Ile Thr Thr Glu Glu Val Val Ile
 340 345 350

Ala Ala Thr Leu Gln Ala Ser Ala His Gln Lys Ala Leu Ala Lys Asp
 355 360 365

Gln Thr Asn Glu Gly Lys Glu Leu Ala Glu Gln Gly Glu Pro Asp Ser
 370 375 380

Ser Thr Leu Ser Leu Ala Glu Lys Leu Ala Leu Phe Asn Lys Leu Ser
 385 390 395 400

Gln Pro Val Ser Lys Ala Ile Ser Thr Arg Asn Arg Ile Asp Thr Arg
 405 410 415

Gln Arg Arg Met Asn Ala Arg Tyr Gln Thr Gln Pro Val Thr Leu Gly
 420 425 430

Glu Val Glu Gln Val Gln Ser Gly Lys Leu Ile Pro Phe Ser Pro Ala
 435 440 445

Val Asn Thr Ser Val Ser Thr Val Ala Ser Thr Val Ala Pro Met Tyr
 450 455 460

Ala Gly Asp Leu Arg Thr Lys Pro Pro Leu Asp His Asn Ala Ser Ala
 465 470 475 480

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Thr Asp Tyr Lys Phe Ser Ser Ser Ile Glu Asn Ser Asp Ser Pro Val
 485 490 495

Arg Ser Ile Leu Lys Ser Gln Ala Trp Gln Pro Leu Val Glu Gly Ser
 500 505 510

Glu Asn Lys Gly Met Leu Arg Glu Tyr Gly Glu Thr Glu Ser Lys Arg
 515 520 525

Ala Leu Thr Gly Arg Asp Ser Gly Met Glu Lys Tyr Gly Ser Phe Glu
 530 535 540

Glu Ala Glu Ala Ser Tyr Pro Ile Leu Asn Arg Ala Arg Glu Gly Asp
 545 550 555 560

Ser His Lys Glu Ser Lys Tyr Ala Val Pro Arg Arg Gly Ser Leu Glu
 565 570 575

Arg Ala Asn Pro Pro Ile Thr His Leu Gly Asp Glu Pro Lys Glu Phe
 580 585 590

Ser Met Ala Lys Met Asn Ala Gln Gly Asn Leu Asp Leu Arg Asp Arg
 595 600 605

Leu Pro Phe Glu Glu Lys Val Glu Val Glu Asn Val Met Lys Arg Lys
 610 615 620

Phe Ser Leu Arg Ala Ala Glu Phe Gly Glu Pro Thr Ser Glu Gln Thr
 625 630 635 640

Gly Thr Ala Ala Gly Lys Thr Ile Ala Gln Thr Thr Ala Pro Val Ser
 645 650 655

Trp Lys Pro Gln Asp Ser Ser Glu Gln Pro Gln Glu Lys Leu Cys Lys
 660 665 670

Asn Pro Cys Ala Met Phe Ala Ala Gly Glu Ile Lys Thr Pro Thr Gly
 675 680 685

Glu Gly Leu Leu Asp Ser Pro Ser Lys Thr Met Ser Ile Lys Glu Arg
 690 695 700

Leu Ala Leu Leu Lys Lys Ser Gly Glu Glu Asp Trp Arg Asn Arg Leu
 705 710 715 720

Ser Arg Arg Gln Glu Gly Gly Lys Ala Pro Ala Ser Ser Leu His Thr
 725 730 735

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Gln Glu Ala Gly Arg Ser Leu Ile Lys Lys Arg Val Thr Glu Ser Arg
 740 745 750

Glu Ser Gln Met Thr Ile Glu Glu Arg Lys Gln Leu Ile Thr Val Arg
 755 760 765

Glu Glu Ala Trp Lys Thr Arg Gly Arg Gly Ala Ala Asn Asp Ser Thr
 770 775 780

Gln Phe Thr Val Ala Gly Arg Met Val Lys Lys Gly Leu Ala Ser Pro
 785 790 795 800

Thr Ala Ile Thr Pro Val Ala Ser Ala Ile Cys Gly Lys Thr Arg Gly
 805 810 815

Thr Thr Pro Val Ser Lys Pro Leu Glu Asp Ile Glu Ala Arg Pro Asp
 820 825 830

Met Gln Leu Glu Ser Asp Leu Lys Leu Asp Arg Leu Glu Thr Phe Leu
 835 840 845

Arg Arg Leu Asn Asn Lys Val Gly Gly Met His Glu Thr Val Leu Thr
 850 855 860

Val Thr Gly Lys Ser Val Lys Glu Val Met Lys Pro Asp Asp Asp Glu
 865 870 875 880

Thr Phe Ala Lys Phe Tyr Arg Ser Val Asp Tyr Asn Met Pro Arg Ser
 885 890 895

Pro Val Glu Met Asp Glu Asp Phe Asp Val Ile Phe Asp Pro Tyr Ala
 900 905 910

Pro Lys Leu Thr Ser Ser Val Ala Glu His Lys Arg Ala Val Arg Pro
 915 920 925

Lys Arg Arg Val Gln Ala Ser Lys Asn Pro Leu Lys Met Leu Ala Ala
 930 935 940

Arg Glu Asp Leu Leu Gln Glu Tyr Thr Glu Gln Arg Leu Asn Val Ala
 945 950 955 960

Phe Met Glu Ser Lys Arg Met Lys Val Glu Lys Met Ser Ser Asn Ser
 965 970 975

Asn Phe Ser Glu Val Thr Leu Ala Gly Leu Ala Ser Lys Glu Asn Phe
 980 985 990

61835-1.ST25.txt

Ser Asn Val Ser Leu Arg Ser Val Asn Leu Thr Glu Gln Asn Ser Asn
 995 1000 1005

Asn Ser Ala Val Pro Tyr Lys Arg Leu Met Leu Leu Gln Ile Lys
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Gly Arg Arg His Val Gln Thr Arg Leu Val Glu Pro Arg Ala Ser
 1025 1030 1035

Ala Leu Asn Ser Gly Asp Cys Phe Leu Leu Leu Ser Pro His Cys
 1040 1045 1050

Cys Phe Leu Trp Val Gly Glu Phe Ala Asn Val Ile Glu Lys Ala
 1055 1060 1065

Lys Ala Ser Glu Leu Ala Thr Leu Ile Gln Thr Lys Arg Glu Leu
 1070 1075 1080

Gly Cys Arg Ala Thr Tyr Ile Gln Thr Ile Glu Glu Gly Ile Asn
 1085 1090 1095

Thr His Thr His Ala Ala Lys Asp Phe Trp Lys Leu Leu Gly Gly
 1100 1105 1110

Gln Thr Ser Tyr Gln Ser Ala Gly Asp Pro Lys Glu Asp Glu Leu
 1115 1120 1125

Tyr Glu Ala Ala Ile Ile Glu Thr Asn Cys Ile Tyr Arg Leu Met
 1130 1135 1140

Asp Asp Lys Leu Val Pro Asp Asp Asp Tyr Trp Gly Lys Ile Pro
 1145 1150 1155

Lys Cys Ser Leu Leu Gln Pro Lys Glu Val Leu Val Phe Asp Phe
 1160 1165 1170

Gly Ser Glu Val Tyr Val Trp His Gly Lys Glu Val Thr Leu Ala
 1175 1180 1185

Gln Arg Lys Ile Ala Phe Gln Leu Ala Lys His Leu Trp Asn Gly
 1190 1195 1200

Thr Phe Asp Tyr Glu Asn Cys Asp Ile Asn Pro Leu Asp Pro Gly
 1205 1210 1215

Glu Cys Asn Pro Leu Ile Pro Arg Lys Gly Gln Gly Arg Pro Asp
 1220 1225 1230

61835-1.ST25.txt

Trp Ala Ile Phe Gly Arg Leu Thr Glu His Asn Glu Thr Ile Leu
 1235 1240 1245
 Phe Lys Glu Lys Phe Leu Asp Trp Thr Glu Leu Lys Arg Ser Asn
 1250 1255 1260
 Glu Lys Asn Pro Gly Glu Leu Ala Gln His Lys Glu Asp Pro Arg
 1265 1270 1275
 Thr Asp Val Lys Ala Tyr Asp Val Thr Arg Met Val Ser Met Pro
 1280 1285 1290
 Gln Thr Thr Ala Gly Thr Ile Leu Asp Gly Val Asn Val Gly Arg
 1295 1300 1305
 Gly Tyr Gly Leu Val Glu Gly His Asp Arg Arg Gln Phe Glu Ile
 1310 1315 1320
 Thr Ser Val Ser Val Asp Val Trp His Ile Leu Glu Phe Asp Tyr
 1325 1330 1335
 Ser Arg Leu Pro Lys Gln Ser Ile Gly Gln Phe His Glu Gly Asp
 1340 1345 1350
 Ala Tyr Val Val Lys Trp Lys Phe Met Val Ser Thr Ala Val Gly
 1355 1360 1365
 Ser Arg Gln Lys Gly Glu His Ser Val Arg Ala Ala Gly Lys Glu
 1370 1375 1380
 Lys Cys Val Tyr Phe Phe Trp Gln Gly Arg His Ser Thr Val Ser
 1385 1390 1395
 Glu Lys Gly Thr Ser Ala Leu Met Thr Val Glu Leu Asp Glu Glu
 1400 1405 1410
 Arg Gly Ala Gln Val Gln Val Leu Gln Gly Lys Glu Pro Pro Cys
 1415 1420 1425
 Phe Leu Gln Cys Phe Gln Gly Gly Met Val Val His Ser Gly Arg
 1430 1435 1440
 Arg Glu Glu Glu Glu Asn Val Gln Ser Glu Trp Arg Leu Tyr
 1445 1450 1455
 Cys Val Arg Gly Glu Val Pro Val Glu Gly Asn Leu Leu Glu Val
 1460 1465 1470

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Ala	Cys	His	Cys	Ser	Ser	Leu	Arg	Ser	Arg	Thr	Ser	Met	Val	Val
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Leu	Asn	Val	Asn	Lys	Ala	Leu	Ile	Tyr	Leu	Trp	His	Gly	Cys	Lys
1490						1495					1500			
Ala	Gln	Ala	His	Thr	Lys	Glu	Val	Gly	Arg	Thr	Ala	Ala	Asn	Lys
1505						1510					1515			
Ile	Lys	Glu	Gln	Cys	Pro	Leu	Glu	Ala	Gly	Leu	His	Ser	Ser	Ser
1520						1525					1530			
Lys	Val	Thr	Ile	His	Glu	Cys	Asp	Glu	Gly	Ser	Glu	Pro	Leu	Gly
1535						1540					1545			
Phe	Trp	Asp	Ala	Leu	Gly	Arg	Arg	Asp	Arg	Lys	Ala	Tyr	Asp	Cys
1550						1555					1560			
Met	Leu	Gln	Asp	Pro	Gly	Ser	Phe	Asn	Phe	Ala	Pro	Arg	Leu	Phe
1565						1570					1575			
Ile	Leu	Ser	Ser	Ser	Ser	Gly	Asp	Phe	Ala	Ala	Thr	Glu	Phe	Val
1580						1585					1590			
Tyr	Pro	Ala	Arg	Ala	Pro	Ser	Val	Val	Ser	Ser	Met	Pro	Phe	Leu
1595						1600					1605			
Gln	Glu	Asp	Leu	Tyr	Ser	Ala	Pro	Gln	Pro	Ala	Leu	Phe	Leu	Val
1610						1615					1620			
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1625						1630					1635			
Glu	Asn	Lys	Ile	Thr	Gly	Ser	Ala	Arg	Ile	Arg	Trp	Ala	Ser	Asp
1640						1645					1650			
Arg	Lys	Ser	Ala	Met	Glu	Thr	Val	Leu	Gln	Tyr	Cys	Lys	Gly	Lys
1655						1660					1665			
Asn	Leu	Lys	Lys	Pro	Ala	Pro	Lys	Ser	Tyr	Leu	Ile	His	Ala	Gly
1670						1675					1680			
Leu	Glu	Pro	Leu	Thr	Phe	Thr	Asn	Met	Phe	Pro	Ser	Trp	Glu	His
1685						1690					1695			
Arg	Glu	Asp	Ile	Ala	Glu	Ile	Thr	Glu	Met	Asp	Thr	Glu	Val	Ser
1700						1705					1710			

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 1715 1720 1725

Thr Ile Tyr Pro Leu Ala Asp Leu Leu Ala Arg Pro Leu Pro Glu
 1730 1735 1740

Gly Val Asp Pro Leu Lys Leu Glu Ile Tyr Leu Thr Asp Glu Asp
 1745 1750 1755

Phe Glu Phe Ala Leu Asp Met Thr Arg Asp Glu Tyr Asn Ala Leu
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 1775 1780 1785

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 <223> n is a, c, g, or t

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 aaaccaacct taatggccttg ttgatggata agacggcatc aacttgtaca ttgcccatt 180
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61835-1.ST25.txt

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ggcgacccc atg gca tcc ccc aga acc gta act att gtg gcc ctc tca gtg      171
      Met Ala Ser Pro Arg Thr Val Thr Ile Val Ala Leu Ser Val
      1              5              10

gcc ctg gga ctc ttc ttt gtt ttc atg ggg act atc aag ctg acc ccc      219
Ala Leu Gly Leu Phe Phe Val Phe Met Gly Thr Ile Lys Leu Thr Pro
15              20              25              30

agg ctc agc aag gat gcc tac agt gag atg aaa cgt gct tac aag agc      267
Arg Leu Ser Lys Asp Ala Tyr Ser Glu Met Lys Arg Ala Tyr Lys Ser
      35              40              45

tat gtt cga gcc ctc cct ctg ctg aag aaa atg ggg atc aat tcc att      315
Tyr Val Arg Ala Leu Pro Leu Leu Lys Lys Met Gly Ile Asn Ser Ile
      50              55              60

ctc ctc cga aaa agc att ggt gcc ctt gaa gtg gcc tgt ggc atc gtc      363
Leu Leu Arg Lys Ser Ile Gly Ala Leu Glu Val Ala Cys Gly Ile Val
      65              70              75

atg acc ctt gtg cct ggg cgt ccc aaa gat gtg gcc aac ttc ttc cta      411
Met Thr Leu Val Pro Gly Arg Pro Lys Asp Val Ala Asn Phe Phe Leu
      80              85              90

ctg ttg ctg gtg ttg gct gtg ctc ttc ttc cac cag ctg gtc ggt gat      459
Leu Leu Leu Val Leu Ala Val Leu Phe Phe His Gln Leu Val Gly Asp
      95              100              105              110

cct ctc aaa cgc tac gcc cat gct ctg gtg ttt gga atc ctg ctc act      507
Pro Leu Lys Arg Tyr Ala His Ala Leu Val Phe Gly Ile Leu Leu Thr
      115              120              125

tgc cgc ctg ctg att gct cgc aag ccc gaa gac cgg tct tct gag aag      555
Cys Arg Leu Leu Ile Ala Arg Lys Pro Glu Asp Arg Ser Ser Glu Lys
      130              135              140

aag cct ttg cca ggg aat gct gag gag caa ccc tcc tta tat gag aag      603
Lys Pro Leu Pro Gly Asn Ala Glu Glu Gln Pro Ser Leu Tyr Glu Lys
      145              150              155

gcc cct cag ggc aaa gtg aag gtg tca tag aaaagtggaa gtgcaaagag      653
Ala Pro Gln Gly Lys Val Lys Val Ser
      160              165

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ttgtgtacat ctatatgcta aaatgacttc cccacattga catttgtgcg ccacctttaa      833
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gtaattgtga gatggactcc aacaagcatg tgactgtgag attgtgtgtg ggaaaaatgta      953
ttaaactact ctgtgtgtgt gtgtgtgtgt gtgtgcgcac gcgcgcacgc gcacacactc      1013
acgcacacac aagcagagaa ggcgctgata ttgaactaat cctgcacagg catccttccc      1073

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61835-1.ST25.txt

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gggggggggt gtgtgggaag agtacttatt attgtgtttt cttcagtgtg attgttcttg 1973
gtaattgata cctctctgtt ttatttctct cattctttca aaataaaaact ttttgaaatt 2033
tggagg 2039

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Gly Leu Phe Phe Val Phe Met Gly Thr Ile Lys Leu Thr Pro Arg Leu
20 25 30

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35 40 45

Arg Ala Leu Pro Leu Leu Lys Lys Met Gly Ile Asn Ser Ile Leu Leu
50 55 60

Arg Lys Ser Ile Gly Ala Leu Glu Val Ala Cys Gly Ile Val Met Thr
65 70 75 80

Leu Val Pro Gly Arg Pro Lys Asp Val Ala Asn Phe Phe Leu Leu Leu
85 90 95

61835-1.ST25.txt

Leu Val Leu Ala Val Leu Phe Phe His Gln Leu Val Gly Asp Pro Leu
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Lys Arg Tyr Ala His Ala Leu Val Phe Gly Ile Leu Leu Thr Cys Arg
 115 120 125

Leu Leu Ile Ala Arg Lys Pro Glu Asp Arg Ser Ser Glu Lys Lys Pro
 130 135 140

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Gln Gly Lys Val Lys Val Ser
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 Met Tyr Ser Glu Ile Gln Arg Glu Arg Ala Asp Ile
 1 5 10
 ggg ggc ctg atg gcc cgg cca gaa tac aga gag tgg aat ccg gag ctc 158
 Gly Gly Leu Met Ala Arg Pro Glu Tyr Arg Glu Trp Asn Pro Glu Leu
 15 20 25
 atc aag ccc aag aag ctg ctg aac ccc gtg aag gcc tct cgg agt cac 206
 Ile Lys Pro Lys Lys Leu Asn Pro Val Lys Ala Ser Arg Ser His
 30 35 40
 cag gag ctc cac cgg gag ctg ctc atg aac cac aga agg ggc ctt ggt 254
 Gln Glu Leu His Arg Glu Leu Leu Met Asn His Arg Arg Gly Leu Gly
 45 50 55 60
 gtg gac agc aag cca gag ctg cag cgt gtc cta gag cac cgc cgg cgg 302
 Val Asp Ser Lys Pro Glu Leu Gln Arg Val Leu Glu His Arg Arg Arg
 65 70 75
 aac cag ctc atc aag aag aag aag gag gag ctg gaa gcc aag cgg ctg 350
 Asn Gln Leu Ile Lys Lys Lys Lys Glu Leu Glu Ala Lys Arg Leu
 80 85 90
 cag tgc ccc ttt gag cag gag ctg ctg aga cgg cag cag agg ctg aac 398
 Gln Cys Pro Phe Glu Gln Glu Leu Leu Arg Arg Gln Gln Arg Leu Asn
 95 100 105
 cag ctg gaa aaa cca cca gag aag gaa gag gat cac gcc ccc gag ttt 446

61835-1.ST25.txt

Gln Leu Glu Lys Pro Pro Glu Lys Glu Glu Asp His Ala Pro Glu Phe
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 Ile Lys Val Arg Glu Asn Leu Arg Arg Ile Ala Thr Leu Thr Ser Glu
 125 130 135 140

gag aga gag ctg tag ggccagctgc cgggctcagg ccaactgccca ccctggcctg 549
 Glu Arg Glu Leu

gacagcctcc ttcagccctt ctgtacctgg cagccctggg ccccaggccc tgggacgtct 609

gtgatgttcc cacctgcttc tgtagaaatg tgtcacccca gagggcctgg ctctccctgg 669

gaggctgggg ccctaagct cctaggtttt ccttccaagc acccagccct cctgctccaa 729

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gcccgtgaag actttggcct agcaaattgt gttgggtatg tgagtgtgt tttaatcaga 1569

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<400> 41

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Ala Arg Pro Glu Tyr Arg Glu Trp Asn Pro Glu Leu Ile Lys Pro Lys
 20 25 30

61835-1.ST25.txt

Lys Leu Leu Asn Pro Val Lys Ala Ser Arg Ser His Gln Glu Leu His
 35 40 45

Arg Glu Leu Leu Met Asn His Arg Arg Gly Leu Gly Val Asp Ser Lys
 50 55 60

Pro Glu Leu Gln Arg Val Leu Glu His Arg Arg Arg Asn Gln Leu Ile
 65 70 75 80

Lys Lys Lys Lys Glu Glu Leu Glu Ala Lys Arg Leu Gln Cys Pro Phe
 85 90 95

Glu Gln Glu Leu Leu Arg Arg Gln Gln Arg Leu Asn Gln Leu Glu Lys
 100 105 110

Pro Pro Glu Lys Glu Glu Asp His Ala Pro Glu Phe Ile Lys Val Arg
 115 120 125

Glu Asn Leu Arg Arg Ile Ala Thr Leu Thr Ser Glu Glu Arg Glu Leu
 130 135 140

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 <211> 228
 <212> DNA
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<400> 42
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 atctcttcat ttaaaaacag aactttgttg ttaactgtgg aaaagaaatt gttattggag 180
 agttctcaga gtgagaatag ctgaatacag gttcactgtg aaaaaaag 228

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<220>
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<400> 43
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 ggaactataa ctcctctgcg agaggcggag aactccttcc ccaaattcttt tggggacttt 180
 tctctcttta cccacctccg cccctgcgag gagttgaggg gccagttcgg ccgcccgcgcg 240
 cgtcttccccg ttcggcgtgt gcttggccccg gggaaccggg agggcccggc gatcgcgcgcg 300

cggccgccgc	gaggggtgtga	gcgcgcgtgg	gcgcccgcgcg	agccgaggcc	atg gtg Met Val 1	356										
cag Gln	caa Gln	acc Thr	aac Asn	aat Asn	gcc Ala	gag Glu	aac Asn	acg Thr	gaa Glu	gcg Ala	ctg Leu	ctg Leu	gcc Ala	ggc Gly	gag Glu	404
5	5					10					15					
agc Ser	tcg Ser	gac Asp	tcg Ser	ggc Gly	gcc Ala	ggc Gly	ctc Leu	gag Glu	ctg Leu	gga Gly	atc Ile	gcc Ala	tcc Ser	tcc Ser	ccc Pro	452
20	20					25					30					
acg Thr	ccc Pro	ggc Gly	tcc Ser	acc Thr	gcc Ala	tcc Ser	acg Thr	ggc Gly	ggc Gly	aag Lys	gcc Ala	gac Asp	gac Asp	ccg Pro	agc Ser	500
35					40					45					50	
tgg Trp	tgc Cys	aag Lys	acc Thr	ccg Pro	agt Ser	ggg Gly	cac His	atc Ile	aag Lys	cga Arg	ccc Pro	atg Met	aac Asn	gcc Ala	ttc Phe	548
				55					60					65		
atg Met	gtg Val	tgg Trp	tcg Ser	cag Gln	atc Ile	gag Glu	cgg Arg	cgc Arg	aag Lys	atc Ile	atg Met	gag Glu	cag Gln	tcg Ser	ccc Pro	596
			70				75						80			
gac Asp	atg Met	cac His	aac Asn	gcc Ala	gag Glu	atc Ile	tcc Ser	aag Lys	cgg Arg	ctg Leu	ggc Gly	aaa Lys	cgc Arg	tgg Trp	aag Lys	644
		85					90					95				
ctg Leu	ctc Leu	aaa Lys	gac Asp	agc Ser	gac Asp	aag Lys	atc Ile	cct Pro	ttc Phe	att Ile	cga Arg	gag Glu	gcg Ala	gag Glu	cgg Arg	692
	100					105					110					
ctg Leu	cgc Arg	ctc Leu	aag Lys	cac His	atg Met	gct Ala	gac Asp	tac Tyr	ccc Pro	gac Asp	tac Tyr	aag Lys	tac Tyr	cgg Arg	ccc Pro	740
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agg Arg	aag Lys	aag Lys	gtg Val	aag Lys	tcc Ser	ggc Gly	aac Asn	gcc Ala	aac Asn	tcc Ser	agc Ser	tcc Ser	tcg Ser	gcc Ala	gcc Ala	788
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gcc Ala	tcc Ser	tcc Ser	aag Lys	ccg Pro	ggg Gly	gag Glu	aag Lys	gga Gly	gac Asp	aag Lys	gtc Val	ggt Gly	ggc Gly	agt Ser	ggc Gly	836
			150					155				160				
ggg Gly	ggc Gly	ggc Gly	cat His	ggg Gly	ggc Gly	ggc Gly	ggc Gly	ggc Gly	ggc Gly	ggg Gly	agc Ser	agc Ser	aac Asn	gcg Ala	ggg Gly	884
		165				170						175				
gga Gly	gga Gly	ggc Gly	ggc Gly	ggt Gly	gcg Ala	agt Ser	ggc Gly	ggc Gly	ggc Gly	gcc Ala	aac Asn	tcc Ser	aaa Lys	ccg Pro	gcg Ala	932
	180					185					190					
cag Gln	aaa Lys	aag Lys	agc Ser	tgc Cys	ggc Gly	tcc Ser	aaa Lys	gtg Val	gcg Ala	ggc Gly	ggc Gly	gcg Ala	ggc Gly	ggt Gly	ggg Gly	980
	195				200					205					210	
gtt Val	agc Ser	aaa Lys	ccg Pro	cac His	gcc Ala	aag Lys	ctc Leu	atc Ile	ctg Leu	gca Ala	ggc Gly	ggc Gly	ggc Gly	ggc Gly	ggc Gly	1028
				215					220					225		
ggg Gly	aaa Lys	gca Ala	gcg Ala	gct Ala	gcc Ala	gcc Ala	gcc Ala	gcc Ala	tcc Ser	ttc Phe	gcc Ala	gcc Ala	gaa Glu	cag Gln	gcg Ala	1076
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ggg gcc gcc gcc ctg ctg ccc ctg ggc gcc gcc gcc gac cac cac tcg 1124
 Gly Ala Ala Ala Leu Leu Pro Leu Gly Ala Ala Ala Asp His His Ser
 245 250 255

ctg tac aag gcg cgg act ccc agc gcc tcg gcc tcc gcc tcc tcg gca 1172
 Leu Tyr Lys Ala Arg Thr Pro Ser Ala Ser Ala Ser Ala Ser Ser Ala
 260 265 270

gcc tcg gcc tcc gca gcg ctc gcg gcc ccg ggc aag cac ctg gcg gag 1220
 Ala Ser Ala Ser Ala Ala Leu Ala Ala Pro Gly Lys His Leu Ala Glu
 275 280 285 290

aag aag gtg aag cgc gtc tac ctg ttc ggc ggc ctg ggc acg tcg tcg 1268
 Lys Lys Val Lys Arg Val Tyr Leu Phe Gly Gly Leu Gly Thr Ser Ser
 295 300 305

tcg ccc gtg ggc ggc gtg ggc gcg gga gcc gac ccc agc gac ccc ctg 1316
 Ser Pro Val Gly Gly Val Gly Ala Gly Ala Asp Pro Ser Asp Pro Leu
 310 315 320

ggc ctg tac gag gag gag ggc gcg ggc tgc tcg ccc gac gcg ccc agc 1364
 Gly Leu Tyr Glu Glu Glu Gly Ala Gly Cys Ser Pro Asp Ala Pro Ser
 325 330 335

ctg agc ggc cgc agc agc gcc gcc tcg tcc ccc gcc gcc ggc cgc tcg 1412
 Leu Ser Gly Arg Ser Ser Ala Ala Ser Ser Pro Ala Ala Gly Arg Ser
 340 345 350

ccc gcc gac cac cgc ggc tac gcc agc ctg cgc gcc gcc tcg ccc gcc 1460
 Pro Ala Asp His Arg Gly Tyr Ala Ser Leu Arg Ala Ala Ser Pro Ala
 355 360 365 370

ccg tcc agc gcg ccc tcg cac gcg tcc tcc tcg gcc tcg tcc cac tcc 1508
 Pro Ser Ser Ala Pro Ser His Ala Ser Ser Ser Ala Ser Ser His Ser
 375 380 385

tcc tct tcc tcc tcc tcg ggc tcc tcg tcc tcc gac gac gag ttc gaa 1556
 Ser Ser Ser Ser Ser Ser Gly Ser Ser Ser Ser Asp Asp Glu Phe Glu
 390 395 400

gac gac ctg ctc gac ctg aac ccc agc tca aac ttt gag agc atg tcc 1604
 Asp Asp Leu Leu Asp Leu Asn Pro Ser Ser Asn Phe Glu Ser Met Ser
 405 410 415

ctg ggc agc ttc agt tcg tcg tcg gcg ctc gac cgg gac ctg gat ttt 1652
 Leu Gly Ser Phe Ser Ser Ser Ser Ala Leu Asp Arg Asp Leu Asp Phe
 420 425 430

aac ttc gag ccc ggc tcc ggc tcg cac ttc gag ttc ccg gac tac tgc 1700
 Asn Phe Glu Pro Gly Ser Gly Ser His Phe Glu Phe Pro Asp Tyr Cys
 435 440 445 450

acg ccc gag gtg agc gag atg atc tcg gga gac tgg ctc gag tcc agc 1748
 Thr Pro Glu Val Ser Glu Met Ile Ser Gly Asp Trp Leu Glu Ser Ser
 455 460 465

atc tcc aac ctg gtt ttc acc tac tga agggcgcgca ggcagggaga 1795
 Ile Ser Asn Leu Val Phe Thr Tyr
 470

agggccgggg ggggtaggag aggagaaaaa aaaagtga aaagaaacg aaaaggacag 1855

acgaagagtt taaagagaaa agggaaaaaa gaaagaaaaa gtaagcaggg ctcgttcgcc 1915

61835-1.ST25.txt

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 <213> homo sapiens

<400> 44

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 20 25 30

Ser Pro Thr Pro Gly Ser Thr Ala Ser Thr Gly Gly Lys Ala Asp Asp
 35 40 45

Pro Ser Trp Cys Lys Thr Pro Ser Gly His Ile Lys Arg Pro Met Asn
 50 55 60

Ala Phe Met Val Trp Ser Gln Ile Glu Arg Arg Lys Ile Met Glu Gln
 65 70 75 80

Ser Pro Asp Met His Asn Ala Glu Ile Ser Lys Arg Leu Gly Lys Arg
 85 90 95

Trp Lys Leu Leu Lys Asp Ser Asp Lys Ile Pro Phe Ile Arg Glu Ala
 Page 49

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100

105

110

Glu Arg Leu Arg Leu Lys His Met Ala Asp Tyr Pro Asp Tyr Lys Tyr
 115 120 125

Arg Pro Arg Lys Lys Val Lys Ser Gly Asn Ala Asn Ser Ser Ser Ser
 130 135 140

Ala Ala Ala Ser Ser Lys Pro Gly Glu Lys Gly Asp Lys Val Gly Gly
 145 150 155 160

Ser Gly Gly Gly Gly His Gly Gly Gly Gly Gly Gly Gly Ser Ser Asn
 165 170 175

Ala Gly Gly Gly Gly Gly Gly Ala Ser Gly Gly Gly Ala Asn Ser Lys
 180 185 190

Pro Ala Gln Lys Lys Ser Cys Gly Ser Lys Val Ala Gly Gly Ala Gly
 195 200 205

Gly Gly Val Ser Lys Pro His Ala Lys Leu Ile Leu Ala Gly Gly Gly
 210 215 220

Gly Gly Gly Lys Ala Ala Ala Ala Ala Ala Ser Phe Ala Ala Glu
 225 230 235 240

Gln Ala Gly Ala Ala Ala Leu Leu Pro Leu Gly Ala Ala Ala Asp His
 245 250 255

His Ser Leu Tyr Lys Ala Arg Thr Pro Ser Ala Ser Ala Ser Ala Ser
 260 265 270

Ser Ala Ala Ser Ala Ser Ala Ala Leu Ala Ala Pro Gly Lys His Leu
 275 280 285

Ala Glu Lys Lys Val Lys Arg Val Tyr Leu Phe Gly Gly Leu Gly Thr
 290 295 300

Ser Ser Ser Pro Val Gly Gly Val Gly Ala Gly Ala Asp Pro Ser Asp
 305 310 315 320

Pro Leu Gly Leu Tyr Glu Glu Glu Gly Ala Gly Cys Ser Pro Asp Ala
 325 330 335

Pro Ser Leu Ser Gly Arg Ser Ser Ala Ala Ser Ser Pro Ala Ala Gly
 340 345 350

Arg Ser Pro Ala Asp His Arg Gly Tyr Ala Ser Leu Arg Ala Ala Ser

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355

360

365

Pro Ala Pro Ser Ser Ala Pro Ser His Ala Ser Ser Ser Ala Ser Ser
 370 375 380

His Ser Ser Ser Ser Ser Ser Ser Gly Ser Ser Ser Ser Asp Asp Glu
 385 390 395 400

Phe Glu Asp Asp Leu Leu Asp Leu Asn Pro Ser Ser Asn Phe Glu Ser
 405 410 415

Met Ser Leu Gly Ser Phe Ser Ser Ser Ser Ala Leu Asp Arg Asp Leu
 420 425 430

Asp Phe Asn Phe Glu Pro Gly Ser Gly Ser His Phe Glu Phe Pro Asp
 435 440 445

Tyr Cys Thr Pro Glu Val Ser Glu Met Ile Ser Gly Asp Trp Leu Glu
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Ser Ser Ile Ser Asn Leu Val Phe Thr Tyr
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<220>
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 <222> (14)..(601)

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 gtg acc gcc gag gag gca gca ggc gct tcc ccc gcg aag gcc aac ggc 97
 Val Thr Ala Glu Glu Ala Ala Gly Ala Ser Pro Ala Lys Ala Asn Gly
 15 20 25
 cag gag aat ggc cac gtg aaa agc aat gga gac tta tcc ccc aag ggt 145
 Gln Glu Asn Gly His Val Lys Ser Asn Gly Asp Leu Ser Pro Lys Gly
 30 35 40
 gaa ggg gag tcg ccc cct gtg aac gga aca gat gag gca gcc ggg gcc 193
 Glu Gly Glu Ser Pro Pro Val Asn Gly Thr Asp Glu Ala Ala Gly Ala
 45 50 55 60
 act ggc gat gcc atc gag cca gca ccc cct agc cag ggt gct gag gcc 241
 Thr Gly Asp Ala Ile Glu Pro Ala Pro Pro Ser Gln Gly Ala Glu Ala
 65 70 75
 aag ggg gag gtc ccc ccc aag gag acc ccc aag aag aag aag aaa ttc 289
 Lys Gly Glu Val Pro Pro Lys Glu Thr Pro Lys Lys Lys Lys Lys Phe
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80	85	90	
tct ttc aag aag cct ttc aaa ttg agc ggc ctg tcc ttc aag aga aat			337
Ser Phe Lys Lys Pro Phe Lys Leu Ser Gly Leu Ser Phe Lys Arg Asn			
95	100	105	
cgg aag gag ggt ggg ggt gat tct tct gcc tcc tca ccc aca gag gaa			385
Arg Lys Glu Gly Gly Gly Asp Ser Ser Ala Ser Ser Pro Thr Glu Glu			
110	115	120	
gag cag gag cag ggg gag atc ggt gcc tgc agc gac gag ggc act gct			433
Glu Gln Glu Gln Gly Glu Ile Gly Ala Cys Ser Asp Glu Gly Thr Ala			
125	130	135	140
cag gaa ggg aag gcc gca gcc acc cct gag agc cag gaa ccc cag gcc			481
Gln Glu Gly Lys Ala Ala Ala Thr Pro Glu Ser Gln Glu Pro Gln Ala			
145	150	155	
aag ggg gca gag gct agt gca gcc tca gaa gaa gag gca ggg ccc cag			529
Lys Gly Ala Glu Ala Ser Ala Ala Ser Glu Glu Glu Ala Gly Pro Gln			
160	165	170	
gct aca gag cca tcc act ccc tcg ggg ccg gag agt ggc cct aca cca			577
Ala Thr Glu Pro Ser Thr Pro Ser Gly Pro Glu Ser Gly Pro Thr Pro			
175	180	185	
gcc agc gct gag cag aat gag tag ctaggtaggg gcaggtgggt gatctctaag			631
Ala Ser Ala Glu Gln Asn Glu			
190	195		
ctgcaaaaac tgtgctgtcc ttgtgaggtc actgcctgga cctgggtgccc tggctgcctt			691
cctgtgccca gaaaggaagg ggctattgcc tcctcccagc cacgttccct ttcctcctct			751
ccctcctgtg gattctccca tcagccatct gggtctctctc ttaaggccag ttgaagatgg			811
tcccttacag cttcccaagt taggttagtg atgtgaaatg ctctgtctcc tggccctacc			871
tccttccctg tccccacccc tgcataaggc agttgttggt tttcttcccc aattcttttc			931
caagtagggt ttgttttacc tactccccaa atccctgagc cagaagtggg gtgcttatac			991
tcccaaacct tgagtgtcca gccttcccct gttgttttta gtctcttgtg ctgtgcctag			1051
tggcacctgg gctggggagg aactgcccc gtctaggttt ttataaatgt cttactcaag			1111
ttcaaacctc cagcctgtga atcaactgtg tctctttttt gacttggtaa gcaagtatta			1171
ggctttgggg tggggggagg tctgtaaatgt gaaacaactt cttgtctttt tttctccac			1231
tgttgtaaat aacttttaat ggccaaaccc cagatttgta cttttttttt ttttctaact			1291
gctaaaacca ttctcttcca cctgggtttta ctgtaacatt tgg			1334

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<400> 46

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61835-1.ST25.txt

Glu Ala Ala Gly Ala Ser Pro Ala Lys Ala Asn Gly Gln Glu Asn Gly
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His Val Lys Ser Asn Gly Asp Leu Ser Pro Lys Gly Glu Gly Glu Ser
 35 40 45

Pro Pro Val Asn Gly Thr Asp Glu Ala Ala Gly Ala Thr Gly Asp Ala
 50 55 60

Ile Glu Pro Ala Pro Pro Ser Gln Gly Ala Glu Ala Lys Gly Glu Val
 65 70 75 80

Pro Pro Lys Glu Thr Pro Lys Lys Lys Lys Lys Phe Ser Phe Lys Lys
 85 90 95

Pro Phe Lys Leu Ser Gly Leu Ser Phe Lys Arg Asn Arg Lys Glu Gly
 100 105 110

Gly Gly Asp Ser Ser Ala Ser Ser Pro Thr Glu Glu Glu Gln Glu Gln
 115 120 125

Gly Glu Ile Gly Ala Cys Ser Asp Glu Gly Thr Ala Gln Glu Gly Lys
 130 135 140

Ala Ala Ala Thr Pro Glu Ser Gln Glu Pro Gln Ala Lys Gly Ala Glu
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Ala Ser Ala Ala Ser Glu Glu Glu Ala Gly Pro Gln Ala Thr Glu Pro
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 180 185 190

Gln Asn Glu
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 Met Ala Thr
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57

61835-1.ST25.txt

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Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Val Asp Ser Lys Gly Phe
   5                               10                               15

gat gaa tac atg aag gag cta gga gtg gga ata gct ttg cga aaa atg      153
Asp Glu Tyr Met Lys Glu Leu Gly Val Gly Ile Ala Leu Arg Lys Met
  20                               25                               30                               35

ggc gca atg gcc aag cca gat tgt atc atc act tgt gat ggt aaa aac      201
Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp Gly Lys Asn
                     40                               45                               50

ctc acc ata aaa act gag agc act ttg aaa aca aca cag ttt tct tgt      249
Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln Phe Ser Cys
                     55                               60                               65

acc ctg gga gag aag ttt gaa gaa acc aca gct gat ggc aga aaa act      297
Thr Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly Arg Lys Thr
   70                               75                               80

cag act gtc tgc aac ttt aca gat ggt gca ttg gtt cag cat cag gag      345
Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln His Gln Glu
   85                               90                               95

tgg gat ggg aag gaa agc aca ata aca aga aaa ttg aaa gat ggg aaa      393
Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys Asp Gly Lys
  100                               105                               110                               115

tta gtg gtg gag tgt gtc atg aac aat gtc acc tgt act cgg atc tat      441
Leu Val Val Glu Cys Val Met Asn Asn Val Thr Cys Thr Arg Ile Tyr
                     120                               125                               130

gaa aaa gta gaa taa aaattccatc atcactttgg acaggagtta attaagagaa      496
Glu Lys Val Glu
                     135

tgaccaagct cagttcaatg agcaaatctc catactgttt ctttcttttt tttttcatta      556

ctgtgtttcaa ttatctttat cataaacatt ttacatgcag ctattttcaaa gtgtgtttgga      616

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Lys Gly Phe Asp Glu Tyr Met Lys Glu Leu Gly Val Gly Ile Ala Leu
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Arg Lys Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp
35                               40                               45

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Gly Lys Asn Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln
Page 54

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50

55

60

Phe Ser Cys Thr Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly
 65 70 75 80

Arg Lys Thr Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln
 85 90 95

His Gln Glu Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys
 100 105 110

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 Met Ser Ala Gly Gly Ala Ser Val Pro Pro Pro
 1 5 10
 ccg aac ccc gcc gtg tcc ttc ccg ccg ccc cgg gtc acc ctg ccc gcc 160
 Pro Asn Pro Ala Val Ser Phe Pro Pro Pro Arg Val Thr Leu Pro Ala
 15 20 25
 ggc ccc gac atc ctg cgg acc tac tcg ggc gcc ttc gtc tgc ctg gag 208
 Gly Pro Asp Ile Leu Arg Thr Tyr Ser Gly Ala Phe Val Cys Leu Glu
 30 35 40
 att ctg ttc ggg ggt ctt gtc tgg att ttg gtt gcc tcc tcc aat gtt 256
 Ile Leu Phe Gly Gly Leu Val Trp Ile Leu Val Ala Ser Ser Asn Val
 45 50 55
 cct cta cct cta cta caa gga tgg gtc atg ttt gtg tcc gtg aca gcg 304
 Pro Leu Pro Leu Leu Gln Gly Trp Val Met Phe Val Ser Val Thr Ala
 60 65 70 75
 ttt ttc ttt tcg ctc ctc ttt ctg ggc atg ttc ctc tct ggc atg gtg 352
 Phe Phe Phe Ser Leu Leu Phe Leu Gly Met Phe Leu Ser Gly Met Val
 80 85 90
 gct caa att gat gct aac tgg aac ttc ctg gat ttt gcc tac cat ttt 400
 Ala Gln Ile Asp Ala Asn Trp Asn Phe Leu Asp Phe Ala Tyr His Phe
 95 100 105

61835-1.ST25.txt

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Thr Val Phe Val Phe Tyr Phe Gly Ala Phe Leu Leu Glu Ala Ala Ala	
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aca tcc ctg cat gat ttg cat tgc aat aca acc ata acc ggg cag cca	496
Thr Ser Leu His Asp Leu His Cys Asn Thr Thr Ile Thr Gly Gln Pro	
125 130 135	
ctc ctg agt gat aac cag tat aac ata aac gta gca gcc tca att ttt	544
Leu Leu Ser Asp Asn Gln Tyr Asn Ile Asn Val Ala Ala Ser Ile Phe	
140 145 150 155	
gcc ttt atg acg aca gct tgt tat ggt tgc agt ttg ggt ctg gct tta	592
Ala Phe Met Thr Thr Ala Cys Tyr Gly Cys Ser Leu Gly Leu Ala Leu	
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cga aga tgg cga ccg taa cactccttag aaactggcag tcgtatgtta	640
Arg Arg Trp Arg Pro	
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61835-1.ST25.txt

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gccatgtata agttgggcta ttagagttca tggaacatag aacaaccatg aatgagtggc 2140
atgatccgtg cttaatgata aagtgttact tatctaataa tcctctagaa agaaccctgt 2200
tagatcttgg tttgtgataa aaatataaag acagaagaca tgaggaaaaa caaaagggtt 2260
gaggaaatca ggcataatgac ttatatactta acatcagatc ttttctataa tctctacta 2320
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<400> 50

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20          25          30
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35          40          45
Leu Val Trp Ile Leu Val Ala Ser Ser Asn Val Pro Leu Pro Leu Leu
50          55          60
Gln Gly Trp Val Met Phe Val Ser Val Thr Ala Phe Phe Phe Ser Leu
65          70          75          80
Leu Phe Leu Gly Met Phe Leu Ser Gly Met Val Ala Gln Ile Asp Ala
85          90          95
Asn Trp Asn Phe Leu Asp Phe Ala Tyr His Phe Thr Val Phe Val Phe
100         105         110

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61835-1.ST25.txt

Tyr Phe Gly Ala Phe Leu Leu Glu Ala Ala Ala Thr Ser Leu His Asp
 115 120 125

Leu His Cys Asn Thr Thr Ile Thr Gly Gln Pro Leu Leu Ser Asp Asn
 130 135 140

Gln Tyr Asn Ile Asn Val Ala Ala Ser Ile Phe Ala Phe Met Thr Thr
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 gaaccaaggagg caactaaagc cgtcaggttc tgaacagctg gtagatgggc tggcttactg 180
 aaggac atg att cag act gtc ccg gac cca gca gct cat atc aag gaa 228
 Met Ile Gln Thr Val Pro Asp Pro Ala Ala His Ile Lys Glu
 1 5 10
 gcc tta tca gtt gtg agt gag gac cag tcg ttg ttt gag tgt gcc tac 276
 Ala Leu Ser Val Val Ser Glu Asp Gln Ser Leu Phe Glu Cys Ala Tyr
 15 20 25 30
 gga acg cca cac ctg gct aag aca gag atg acc gcg tcc tcc tcc agc 324
 Gly Thr Pro His Leu Ala Lys Thr Glu Met Thr Ala Ser Ser Ser Ser
 35 40 45
 gac tat gga cag act tcc aag atg agc cca cgc gtc cct cag cag gat 372
 Asp Tyr Gly Gln Thr Ser Lys Met Ser Pro Arg Val Pro Gln Gln Asp
 50 55 60
 tgg ctg tct caa ccc cca gcc agg gtc acc atc aaa atg gaa tgt aac 420
 Trp Leu Ser Gln Pro Pro Ala Arg Val Thr Ile Lys Met Glu Cys Asn
 65 70 75
 cct agc cag gtg aat ggc tca agg aac tct cct gat gaa tgc agt gtg 468
 Pro Ser Gln Val Asn Gly Ser Arg Asn Ser Pro Asp Glu Cys Ser Val
 80 85 90
 gcc aaa ggc ggg aag atg gtg ggc agc cca gac acc gtt ggg atg aac 516
 Ala Lys Gly Gly Lys Met Val Gly Ser Pro Asp Thr Val Gly Met Asn
 95 100 105 110
 tac ggc agc tac atg gag gag aag cac atg cca ccc cca aac atg acc 564

61835-1.ST25.txt

Tyr	Gly	Ser	Tyr	Met	Glu	Glu	Lys	His	Met	Pro	Pro	Pro	Asn	Met	Thr		
				115					120					125			
acg	aac	gag	cgc	aga	gtt	atc	gtg	cca	gca	gat	cct	acg	cta	tgg	agt		612
Thr	Asn	Glu	Arg	Arg	Val	Ile	Val	Pro	Ala	Asp	Pro	Thr	Leu	Trp	Ser		
			130					135					140				
aca	gac	cat	gtg	cgg	cag	tgg	ctg	gag	tgg	gcg	gtg	aaa	gaa	tat	ggc		660
Thr	Asp	His	Val	Arg	Gln	Trp	Leu	Glu	Trp	Ala	Val	Lys	Glu	Tyr	Gly		
			145				150					155					
ctt	cca	gac	gtc	aac	atc	ttg	tta	ttc	cag	aac	atc	gat	ggg	aag	gaa		708
Leu	Pro	Asp	Val	Asn	Ile	Leu	Leu	Phe	Gln	Asn	Ile	Asp	Gly	Lys	Glu		
	160					165					170						
ctg	tgc	aag	atg	acc	aag	gac	gac	ttc	cag	agg	ctc	acc	ccc	agc	tac		756
Leu	Cys	Lys	Met	Thr	Lys	Asp	Asp	Phe	Gln	Arg	Leu	Thr	Pro	Ser	Tyr		
	175				180				185						190		
aac	gcc	gac	atc	ctt	ctc	tca	cat	ctc	cac	tac	ctc	aga	gag	act	cct		804
Asn	Ala	Asp	Ile	Leu	Leu	Ser	His	Leu	His	Tyr	Leu	Arg	Glu	Thr	Pro		
				195				200						205			
ctt	cca	cat	ttg	act	tca	gat	gat	gtt	gat	aaa	gcc	tta	caa	aac	tct		852
Leu	Pro	His	Leu	Thr	Ser	Asp	Asp	Val	Asp	Lys	Ala	Leu	Gln	Asn	Ser		
			210					215					220				
cca	cgg	tta	atg	cat	gct	aga	aac	aca	gat	tta	cca	tat	gag	ccc	ccc		900
Pro	Arg	Leu	Met	His	Ala	Arg	Asn	Thr	Asp	Leu	Pro	Tyr	Glu	Pro	Pro		
		225					230					235					
agg	aga	tca	gcc	tgg	acc	ggg	cac	ggc	cac	ccc	acg	ccc	cag	tcg	aaa		948
Arg	Arg	Ser	Ala	Trp	Thr	Gly	His	Gly	His	Pro	Thr	Pro	Gln	Ser	Lys		
	240					245				250							
gct	gct	caa	cca	tct	cct	tcc	aca	gtg	ccc	aaa	act	gaa	gac	cag	cgt		996
Ala	Ala	Gln	Pro	Ser	Pro	Ser	Thr	Val	Pro	Lys	Thr	Glu	Asp	Gln	Arg		
	255				260				265						270		
cct	cag	tta	gat	cct	tat	cag	att	ctt	gga	cca	aca	agt	agc	cgc	ctt		1044
Pro	Gln	Leu	Asp	Pro	Tyr	Gln	Ile	Leu	Gly	Pro	Thr	Ser	Ser	Arg	Leu		
				275					280					285			
gca	aat	cca	ggc	agt	ggc	cag	atc	cag	ctt	tgg	cag	ttc	ctc	ctg	gag		1092
Ala	Asn	Pro	Gly	Ser	Gly	Gln	Ile	Gln	Leu	Trp	Gln	Phe	Leu	Leu	Glu		
			290					295					300				
ctc	ctg	tcg	gac	agc	tcc	aac	tcc	agc	tgc	atc	acc	tgg	gaa	ggc	acc		1140
Leu	Leu	Ser	Asp	Ser	Ser	Asn	Ser	Ser	Cys	Ile	Thr	Trp	Glu	Gly	Thr		
		305					310					315					
aac	ggg	gag	ttc	aag	atg	acg	gat	ccc	gac	gag	gtg	gcc	cgg	cgc	tgg		1188
Asn	Gly	Glu	Phe	Lys	Met	Thr	Asp	Pro	Asp	Glu	Val	Ala	Arg	Arg	Trp		
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gga	gag	cgg	aag	agc	aaa	ccc	aac	atg	aac	tac	gat	aag	ctc	agc	cgc		1236
Gly	Glu	Arg	Lys	Ser	Lys	Pro	Asn	Met	Asn	Tyr	Asp	Lys	Leu	Ser	Arg		
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gcc	ctc	cgt	tac	tac	tat	gac	aag	aac	atc	atg	acc	aag	gtc	cat	ggg		1284
Ala	Leu	Arg	Tyr	Tyr	Tyr	Asp	Lys	Asn	Ile	Met	Thr	Lys	Val	His	Gly		
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61835-1.ST25.txt

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 Pro Tyr Met Gly Ser Tyr His Ala His Pro Gln Lys Met Asn Phe Val
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 gcg ccc cac cct cca gcc ctc ccc gtg aca tct tcc agt ttt ttt gct 1476
 Ala Pro His Pro Pro Ala Leu Pro Val Thr Ser Ser Ser Phe Phe Ala
 415 420 425 430
 gcc cca aac cca tac tgg aat tca cca act ggg ggt ata tac ccc aac 1524
 Ala Pro Asn Pro Tyr Trp Asn Ser Pro Thr Gly Gly Ile Tyr Pro Asn
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 Thr Arg Leu Pro Thr Ser His Met Pro Ser His Leu Gly Thr Tyr Tyr
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61835-1.ST25.txt

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 20 25 30

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 35 40 45

Gly Gln Thr Ser Lys Met Ser Pro Arg Val Pro Gln Gln Asp Trp Leu
 50 55 60

Ser Gln Pro Pro Ala Arg Val Thr Ile Lys Met Glu Cys Asn Pro Ser
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Gln Val Asn Gly Ser Arg Asn Ser Pro Asp Glu Cys Ser Val Ala Lys
 85 90 95

Gly Gly Lys Met Val Gly Ser Pro Asp Thr Val Gly Met Asn Tyr Gly
 100 105 110

Ser Tyr Met Glu Glu Lys His Met Pro Pro Pro Asn Met Thr Thr Asn
 115 120 125

Glu Arg Arg Val Ile Val Pro Ala Asp Pro Thr Leu Trp Ser Thr Asp
 130 135 140

His Val Arg Gln Trp Leu Glu Trp Ala Val Lys Glu Tyr Gly Leu Pro
 145 150 155 160

Asp Val Asn Ile Leu Leu Phe Gln Asn Ile Asp Gly Lys Glu Leu Cys
 165 170 175

Lys Met Thr Lys Asp Asp Phe Gln Arg Leu Thr Pro Ser Tyr Asn Ala

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Asp Ile Leu Leu Ser His Leu His Tyr Leu Arg Glu Thr Pro Leu Pro
 195 200 205

His Leu Thr Ser Asp Asp Val Asp Lys Ala Leu Gln Asn Ser Pro Arg
 210 215 220

Leu Met His Ala Arg Asn Thr Asp Leu Pro Tyr Glu Pro Pro Arg Arg
 225 230 235 240

Ser Ala Trp Thr Gly His Gly His Pro Thr Pro Gln Ser Lys Ala Ala
 245 250 255

Gln Pro Ser Pro Ser Thr Val Pro Lys Thr Glu Asp Gln Arg Pro Gln
 260 265 270

Leu Asp Pro Tyr Gln Ile Leu Gly Pro Thr Ser Ser Arg Leu Ala Asn
 275 280 285

Pro Gly Ser Gly Gln Ile Gln Leu Trp Gln Phe Leu Leu Glu Leu Leu
 290 295 300

Ser Asp Ser Ser Asn Ser Ser Cys Ile Thr Trp Glu Gly Thr Asn Gly
 305 310 315 320

Glu Phe Lys Met Thr Asp Pro Asp Glu Val Ala Arg Arg Trp Gly Glu
 325 330 335

Arg Lys Ser Lys Pro Asn Met Asn Tyr Asp Lys Leu Ser Arg Ala Leu
 340 345 350

Arg Tyr Tyr Tyr Asp Lys Asn Ile Met Thr Lys Val His Gly Lys Arg
 355 360 365

Tyr Ala Tyr Lys Phe Asp Phe His Gly Ile Ala Gln Ala Leu Gln Pro
 370 375 380

His Pro Pro Glu Ser Ser Leu Tyr Lys Tyr Pro Ser Asp Leu Pro Tyr
 385 390 395 400

Met Gly Ser Tyr His Ala His Pro Gln Lys Met Asn Phe Val Ala Pro
 405 410 415

His Pro Pro Ala Leu Pro Val Thr Ser Ser Ser Phe Phe Ala Ala Pro
 420 425 430

Asn Pro Tyr Trp Asn Ser Pro Thr Gly Gly Ile Tyr Pro Asn Thr Arg
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Leu	Pro	Thr	Ser	His	Met	Pro	Ser	His	Leu	Gly	Thr	Tyr	Tyr
450						455					460		